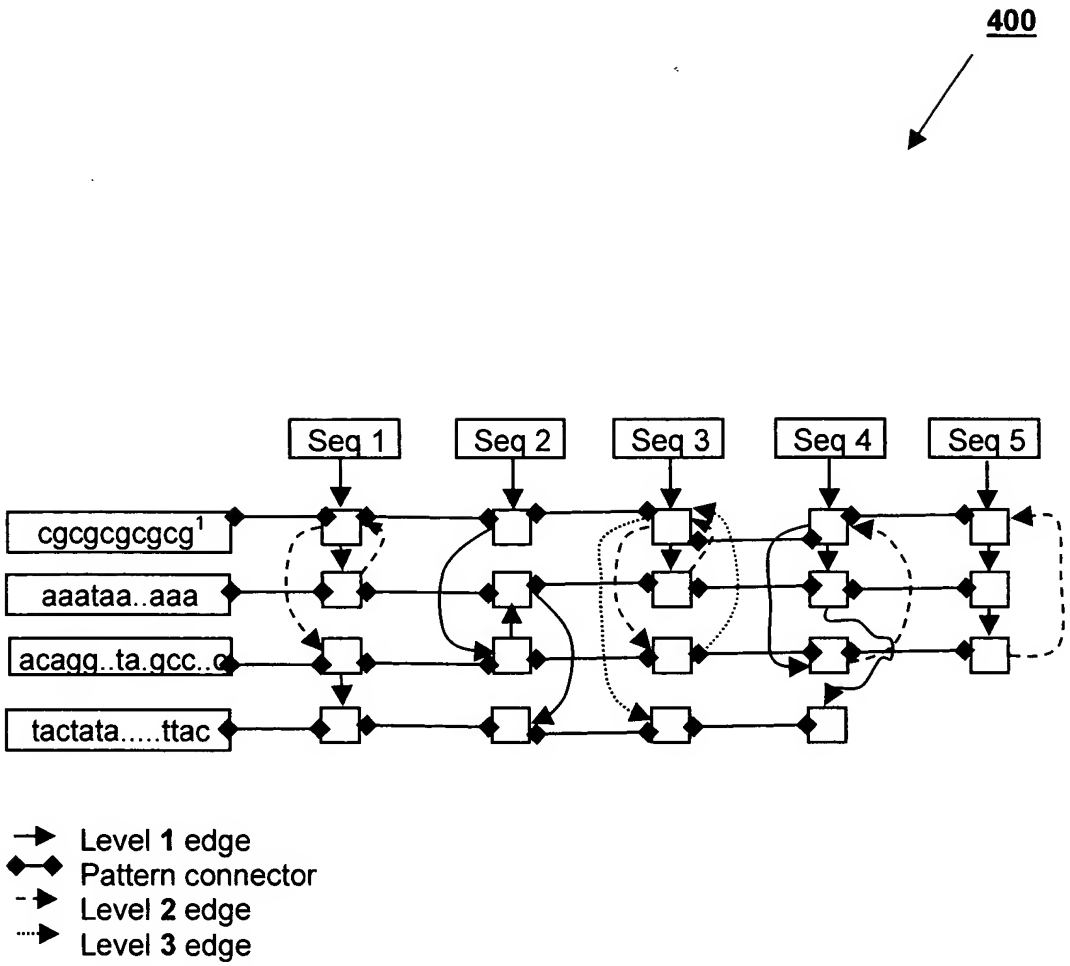
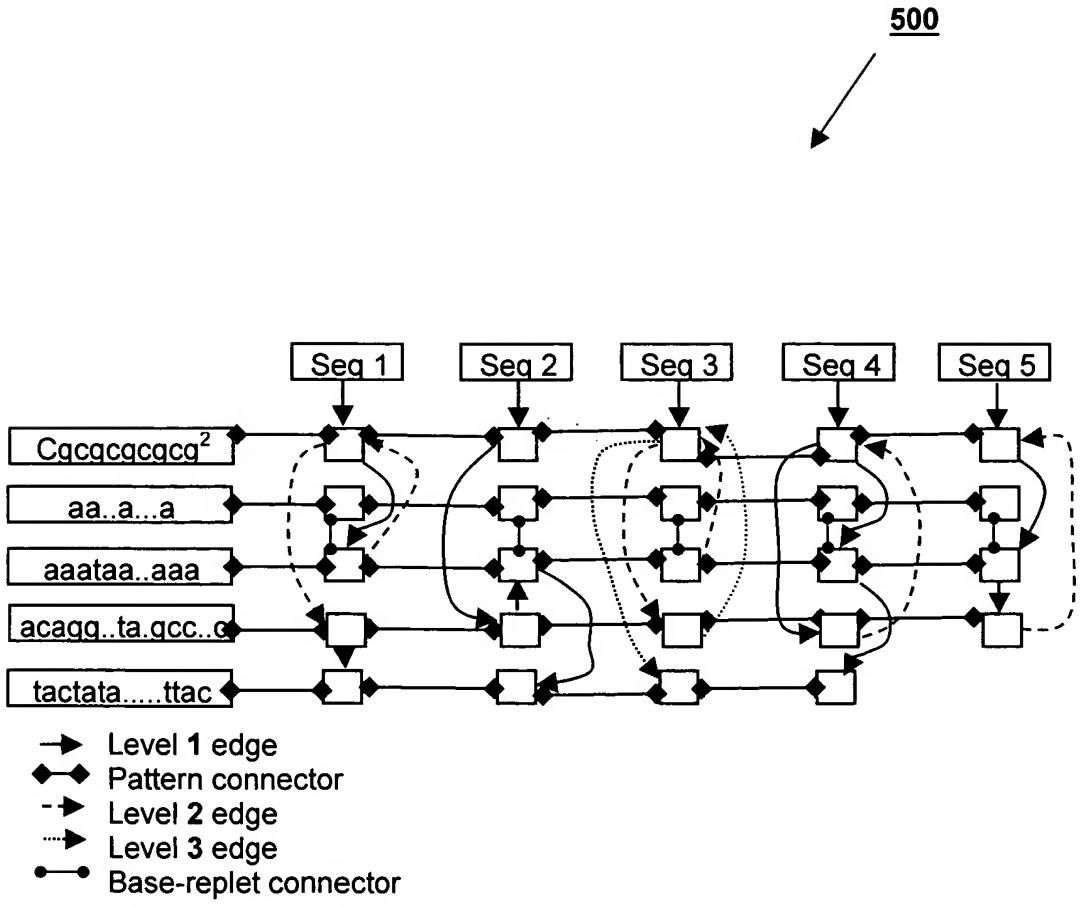


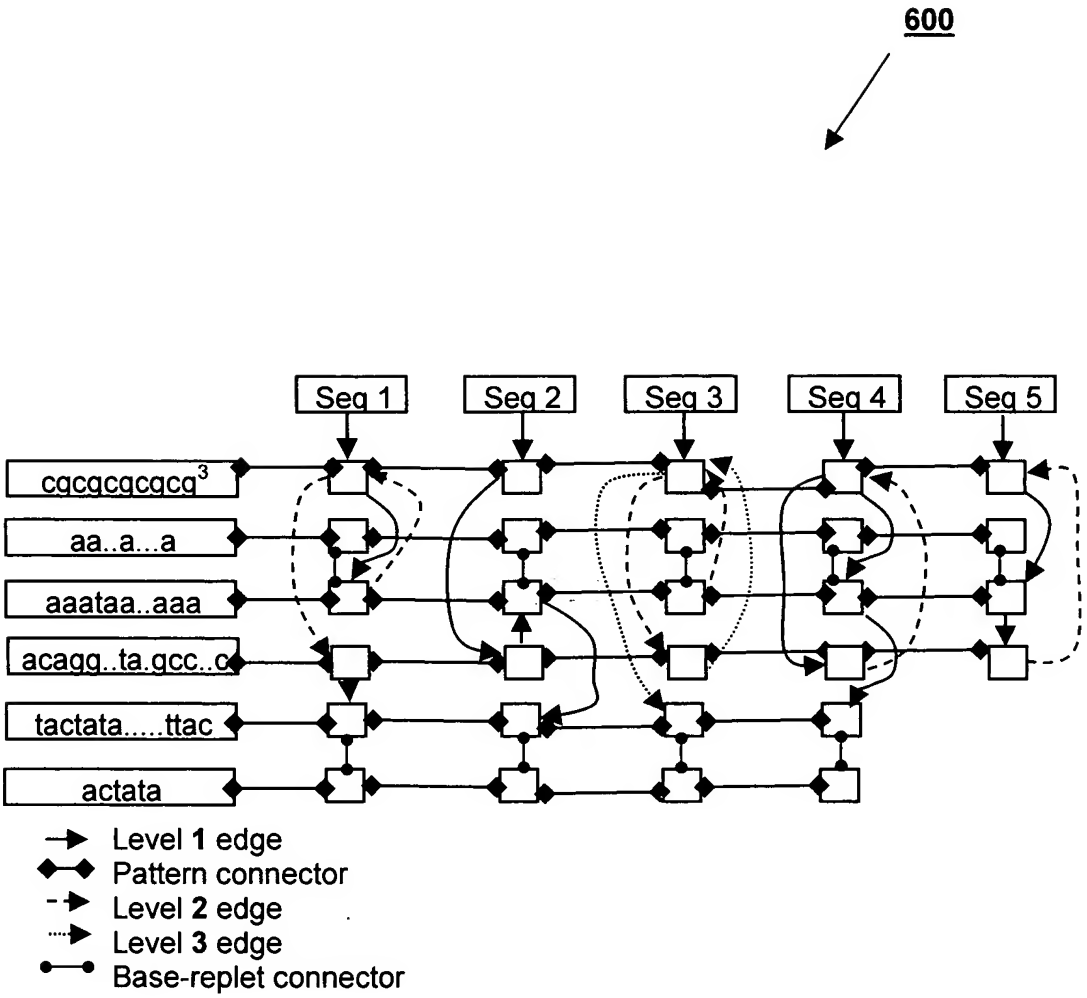
Footnote:
1. sequence id 1 in accompanying sequence listing

FIG. 4



Footnote:
2. sequence id 1 in accompanying sequence listing

FIG. 5



Footnote:
3. sequence id 1 in accompanying sequence listing

FIG. 6

Backbone = bseq 3: acttgatcggtagctagacggagaagctcccaaaac
Base replets occurring in 3 are {cgcgcgcgcg[1], aaataa..aaa, acagg..ta.gcc..c, tactata.....ttac}
Match-set of the base replets are provided below

1: cgcgcgcgcg[4]
{
Sequence-id = 3
Pattern-id = 1
Array of Matching-offsets <K,δ> = {18,39,83}
Array of Is-base-replet = {true, true, true}
Array of Pointer to Base-replet = {null, null, null}
Array of sequence-formation-edges = {2, 3, 4}
Pointer to next-pattern instance = {...}, Pointer to previous-pattern instance = {...}
}

2: aaataa..aaa
{
Sequence-id = 3
Pattern-id = 2
Array of Matching-offsets <K,δ> = {28}
Array of Is-base-replet = {true}
Array of Pointer to Base-replet = {null}
Array of sequence-formation-edges = {1}
Pointer to next-pattern instance = {...}, Pointer to previous-pattern instance = {...}
}

3: acagg..ta.gcc..c
{
Sequence-id = 3
Pattern-id = 3
Array of Matching-offsets <K,δ> = {49}
Array of Is-base-replet = {true}
Array of Pointer to Base-replet = {null}
Array of sequence-formation-edges = {1}
Pointer to next-pattern instance = {...}, Pointer to previous-pattern instance = {...}
}

4: tactata.....ttac
{
Sequence-id = 3
Pattern-id = 4
Array of Matching-offsets <K,δ> = {93}
Array of Is-base-replet = {true}
Array of Pointer to Base-replet = {null}
Array of sequence-formation-edges = {null}
Pointer to next-pattern instance = {...}, Pointer to previous-pattern instance = {...}
}

Footnote:
4. sequence id 1 in accompanying sequence listing

FIG. 9A

10/12

Start of first while loop
Bptr=0;seq="";offset=0;loopcnt=0;ht={};mr=1
Inside the loop
Roffset = 18;
Condition true -> Inside 'if'
Seq = acttgatcggtagctaga[5]
Bptr= 18
Outside 'if'
poffset = 28
seq= acttgatcggtagctagacgcgcgcgcg[6]
ht={<1,1>}
loopcnt=1
mr=2
loopcnt=0
Start of second loop as mr!=null
Roffset = 28
Condition false
Poffset=39
Seq=acttgatcggtagctagacgcgcgcgcgaaataattaaa[7]
ht={<1,1>,<2,1>}
loopcnt=1
mr=1
loopcnt=1
Start of third loop as mr!=null
Roffset =39
Condition false
Poffset= 49
Seq= acttgatcggtagctagacgcgcgcgcgaaataattaaacgcgcgcgcg[8]
ht={<1,2>,<2,1>}
loopcnt=2
mr=3
loopcnt=0
Start of fourth loop as mr!=null
Roffset = 49
Condition false
Poffset=65
Seq= acttgatcggtagctagacgcgcgcgcgaaataattaaacgcgcgcgcgacaggtataggccaac[9]
ht={<1,2>,<2,1>,<3,1>}
loopcnt=1
mr=1
loopcnt=2

Footnotes:
5. sequence id 2 in accompanying sequence listing
6. sequence id 3 in accompanying sequnece listing
7. sequence id 4 in accompanying sequence listing
8. sequence id 5 in accompanying sequence listing
9. sequence id 6 in accompanying sequence listing

FIG. 9B

Start of fifth loop as mr!=null
Roffset = 83
Condition true -> Inside 'if'
Seq=
acttgatcggtagctagacgcgcgcgcgaaataattaaacgcgcgcgcgacaggtataggccaaccggagaagctcccaaaac[10]
Bptr=36
Outside 'if'
Poffset=93
Seq=
acttgatcggtagctagacgcgcgcgcgaaataattaaacgcgcgcgcgacaggtataggccaaccggagaagctcccaaaaccgcgc
gcgcg[11]
ht={<1,3>,<2,1>,<3,1>}
loopcnt=3
mr=4
loopcnt=0

Start of sixth loop as mr!=null
Roffset =93
Condition false
Poffset=93
Seq=
acttgatcggtagctagacgcgcgcgcgaaataattaaacgcgcgcgcgacaggtataggccaaccggagaagctcccaaaaccgcgc
gcgcgtactatatcatattac[12]
ht={<1,3>,<2,1>,<3,1>,<4,1>}
loopcnt=1
mr=null
loopcnt=-1

The while loop is terminated as mr = null;
Outside while loop
There is no more subsequence of the backbone to be added to 'Seq'
Return seq

Output =
"acttgatcggtagctagacgcgcgcgcgaaataattaaacgcgcgcgcgacaggtataggccaaccggagaagctcccaaaaccgcg
cgcgcgtactatatcatattac"[12]

Footnotes:
10. sequence id 7 in accompanying sequence listing
11. sequence id 8 in accompanying sequence listing
12. sequence id 9 in accompanying sequence listing

FIG. 9C